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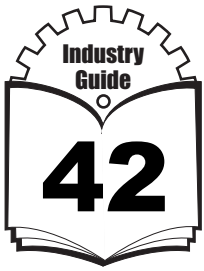
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A Guide to Transportation Safety



NCDOL
N.C. Department of Labor

Occupational Safety and Health Division
N.C. Department of Labor
1101 Mail Service Center
Raleigh, NC 27699-1101

Cherie Berry
Commissioner of Labor

**N.C. Department of Labor
Occupational Safety and Health Program**

Cherie Berry
Commissioner of Labor
OSHA State Plan Designee

Allen McNeely
Deputy Commissioner for Safety and Health

Kevin Beauregard
Assistant Deputy Commissioner for Safety and Health

Edward E. Lewis
Reviewer

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This industry guide incorporates material from several information sources, including extracts from OSHA Publication 3314-08N-06, OSHA Publication *Guidelines for Employers to Reduce Motor Vehicle Crashes*. (<http://www.osha.gov/SLTC/motorvehiclesafety/index.html>), NIOSH Publication No. 2003-119, *Work-Related Roadway Crashes—Challenges and Opportunities for Prevention* (<http://www.cdc.gov/niosh/docs/2003-119/>), and N.C. Department of Transportation, Division of Motor Vehicles, *Driver's Handbook*.

This guide is intended to be consistent with all existing OSHA standards; therefore, if an area is considered by the reader to be inconsistent with a standard, then the OSHA standard should be followed.

To obtain additional copies of this guide, or if you have questions about North Carolina occupational safety and health standards or rules, please contact:

**N.C. Department of Labor
Education, Training and Technical Assistance Bureau
1101 Mail Service Center
Raleigh, NC 27699-1101**

Phone: (919) 807-2875 or 1-800-NC-LABOR (1-800-625-2267)

Additional sources of information are listed on the inside back cover of this guide.

The projected cost of the NCDOL OSH program for federal fiscal year 2010–2011 is \$18,011,652. Federal funding provides approximately 31 percent (\$5,501,500) of this total.



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Foreword

Truck drivers, utility providers, deliverymen and salesmen. All of these occupations have one important thing in common: on-the-job driving. It's the No. 1 killer of workers in North Carolina and the United States.

This industry guide can help employers develop work practices that will eliminate fatal crashes on our roads. It can assist employers in developing a safe driving program and reminding employees of what to look for while driving for work.

In North Carolina, NCDOL inspectors enforce the federal Occupational Safety and Health Act through a state plan approved by the U.S. Department of Labor. The Occupational Safety and Health Division of the N.C. Department of Labor offers many educational programs to the public and produces publications, including this guide, to help inform people about their rights and responsibilities regarding occupational safety and health.

When looking through this guide, please remember the mission of the N.C. Department of Labor is greater than just to enforce regulations. An equally important goal is to help people find ways to create safe workplaces. This guide, like the many other educational materials produced by this department, can help. Reading and using *A Guide to Transportation Safety* will help you develop a driver safety program that will help save lives.

Cherie Berry
Commissioner of Labor

Introduction

Transportation-related fatalities are the leading cause of work-related deaths in the United States, according to figures from the U.S. Bureau of Labor Statistics. This category encompasses events such as highway collisions, workers struck by vehicles, overturned farm equipment, and vehicles struck by equipment. Fatal highway incidents—the leading transportation-related fatality—accounted for 1,356 deaths in the U.S. in 2007, or nearly one out of four fatal work injuries.

In North Carolina, the statistics mirror those on the national level. In 2007 transportation incidents accounted for 67, or nearly 40 percent, of the total workplace fatalities. Highway incidents totaled 28.

Because of the high number of transportation-related fatalities, especially highway deaths, the N.C. Department of Labor will focus on developing a safe driving initiative as part of its strategic plan.

There are no specific standards or rules that will eliminate fatal crashes on the roads. The roads are an ever-changing environment, and drivers are forced to contend with hazards that they have little control over: fellow motorists. But by emphasizing and promoting safe driving, employers can do their part to reduce fatal accidents and increase safety on the highways.

A driver safety program will help (1) save lives and to reduce the risk of life-altering injuries within your workforce; (2) protect your organization's human and financial resources; and (3) guard against potential company and personal liabilities associated with crashes involving employees driving on company business.

Employer Benefits

Besides the fact that transportation-related fatalities are the leading cause of worker deaths, they are also very costly for the employer.

According to the National Highway Traffic Safety Administration, motor vehicle crashes cost employers \$60 billion annually in medical care, legal expenses, property damage and lost productivity. They drive up the cost of benefits such as workers' compensation, Social Security, and private health and disability insurance. In addition, they increase the company overhead involved in administering these programs.

The average crash costs an employer \$16,500. When a worker has an on-the-job crash that results in an injury, the cost to his or her employer is \$74,000. Costs can exceed \$500,000 when a fatality is involved. Off-the-job crashes are costly to employers as well.



The following worksheet, developed by OSHA, NETS and NHTSA, will help employers understand the impact of motor vehicle crashes. You can use the worksheet to illustrate the cost of one crash, or you can apply it to all crashes experienced in a chosen time frame within the organization.

<i>Costs of Motor Vehicle Crashes to Employers Worksheet</i>	
Direct Costs to the Organization	
Workers' compensation benefits	\$ _____
Healthcare costs	\$ _____
Increases in medical insurance premiums	\$ _____
Auto insurance and liability claims and settlements	\$ _____
Physical and vocational rehabilitation costs	\$ _____
Life insurance and survivor benefits	\$ _____
Group health insurance dependent coverage	\$ _____
Property damage (equipment, products, etc.)	\$ _____
Motor vehicle repair and replacement	\$ _____
EMS costs (ambulance or medivac helicopter)	\$ _____
Vehicle towing, impoundment and inspection fees	\$ _____
Municipality or utility fees for damage to roads, signs or poles	\$ _____
Direct total	\$ _____
Indirect Costs	
Supervisor's time (rescheduling, making special arrangements)	\$ _____
Fleet manager's time to coordinate vehicle repair/replacement	\$ _____
Reassignment of personnel to cover for missing employees	\$ _____
Overtime pay	\$ _____
Employee replacement	\$ _____
Re-entry and retraining of injured employees	\$ _____
Administrative costs (documentation, crash investigation)	\$ _____
Inspection costs	\$ _____
Failure to meet business goals resulting in loss of business	\$ _____
Bad publicity, loss of business	\$ _____
Indirect Total	\$ _____
TOTAL	\$ _____

Accident Reporting

Motorists are required by law to make an immediate report to the nearest law enforcement officer or agency of any crash when any person is killed or injured or the total damage to cars and other property appears to amount to \$1,000 or more.

In the event of a crash:

- Stop the vehicle immediately. If you do not stop, you have violated the law.
- Take precautions to prevent further crashes at the scene.
- Do whatever you can to help those who have been injured.
- Contact the nearest law enforcement agency. Try to ensure that someone informs a law enforcement officer immediately.

OSHA Recordkeeping Standard

The OSHA recordkeeping standard, 29 CFR 1904.39, requires an employer to report within eight hours the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident. To report an incident, call the N.C. Department of Labor at 1-800-625-2267 during working hours.

However, the reporting requirements provide an exception for motor vehicle accidents. If the motor vehicle accident occurs on a public street or highway, and does not occur in a construction work zone, you do **not** have to report the incident to the N.C. Department of Labor. Additionally, a fatality or multiple hospitalizations that occur on a commercial or public transportation system do not have to be reported. However, these injuries must be recorded on your OSHA injury and illness records, if you are required to keep such records.

Vehicle Accident Report Form

Employers should develop an accident report form that must be completed anytime there is an accident or damage to a company vehicle. Items that should be included on the form include:

- Employee name, address, driver's license number, vehicle registration number, and insurance information.
- Witness information including address and contact information.
- Injury information.
- Police information such as responders' contact information.
- Copies of citations, if any.

A sample vehicle accident report form is provided in this guide. The form should be modified to best suit the needs of the company.



Photo courtesy of the N.C. Department of Transportation

Sample Accident Investigation Form

Supervisor's Accident Investigation Form

Name of Person Involved in Accident _____

Work Location _____

Driver's License Number _____ Vehicle Number _____

Address _____

City _____ State _____ ZIP _____

(Circle one) Male Female

Date of Accident _____ Time of Accident _____

Exact location of accident: _____

Did the employee incur any injuries as part of the accident? If so, describe:

Was there any damage to the vehicle? If so, describe:

What caused the event?

Were citations issued? Yes ____ No ____ (include copy with report)

Recommended preventive action for the future to prevent reoccurrence:

Signature

Date

Standards

Currently there are no specific OSHA standards that apply directly to driver safety.

However, the American National Standards Institute (ANSI) approved a voluntary standard—ANSI/ASSE Z15.1, *Safe Practices for Motor Vehicle Operations*—that took effect April 28, 2006. It provides guidelines and establishes best practices for development of motor vehicle safety programs for all classes of employers.

A copy of this standard may be purchased through the American Society of Safety Engineers:

The American Society of Safety Engineers

Customer Service

1800 E. Oakton St.

Des Plaines, IL 60018

Phone: (847) 699-2929

Fax: (847) 768-3434

<https://www.asse.org>

Network of Employers for Traffic Safety (NETS) 10-Step Program to Minimize Crash Risk

The 10-Step Program to Minimize Crash Risk provides guidelines for what an employer can do to improve traffic safety performance and minimize the risk of motor vehicle crashes. Following these steps helps to ensure that you hire capable drivers, only allow eligible drivers to drive on company business, train them, supervise them and maintain company vehicles properly. Adherence to these 10 steps can also help to keep your motor vehicle insurance costs as low as possible.

1. Senior Management Commitment and Employee Involvement
2. Written Policies and Procedures
3. Driver Agreements
4. Motor Vehicle Record (MVR) Checks
5. Crash Reporting and Investigation
6. Vehicle Selection, Maintenance and Inspection
7. Disciplinary Action System
8. Reward/Incentive Program
9. Driver Training/Communication
10. Regulatory Compliance

These steps are from the *NETS Traffic Safety Primer: A Guidebook for Employers*.

Step 1: Senior Management Commitment and Employee Involvement

The safety of an organization's employees as they drive for work and to and from work is so important that it requires the attention of top-level management. Senior management can provide leadership, set policies and allocate resources (staff and budget) to create a safety culture. Actively encouraging employee participation and involvement at all levels of the organization is a good practice and will help the effort to succeed. Workers and their representatives must be involved in the initial planning phase.

Step 2: Written Policies and Procedures

A written statement emphasizing the commitment to reducing traffic-related deaths and injuries is essential to a successful program. Create a clear, comprehensive and enforceable set of traffic safety policies and communicate them to all employees. The policy should lay out the expectations of the drivers. These are the cornerstones of an effective driver safety program. Post them throughout the workplace, distribute copies periodically, and discuss the policies at company meetings. Offer incentives for sticking to the rules, and point out the consequences of disregarding them. Below are sample policies that can be adapted for use by your company.

Sample Policies

Alcohol and Drug Use Policy

(Name of Company/Organization) has a vital interest in maintaining safe, healthy and efficient working conditions for its employees. Therefore, the consumption of alcohol or illegal drugs by any employee during “duty hours” is prohibited. Duty hours consist of all working hours, including break periods and on-call periods, whether on or off company premises. The consumption of alcohol or illegal drugs while performing company business or while in a company facility is prohibited.

Seat Belt Use Policy

(Name of Company/Organization) recognizes that seat belts are extremely effective in preventing injuries and loss of life. It is a simple fact that wearing your seat belt can reduce your risk of dying in a traffic crash by 45 percent in a car and by as much as 60 percent in a truck or SUV.

We care about our employees and want to make sure that no one is injured or killed in a tragedy that could have been prevented by the use of seat belts. Therefore, all employees of (Name of Company/Organization) must wear seat belts when operating a company-owned vehicle or any vehicle on company premises or on company business; and all occupants are to wear seat belts or, where appropriate, child restraints when riding in a company-owned vehicle or in a personal vehicle being used for company business. All employees and their families are strongly encouraged to always use seat belts and the proper child restraints whenever they are driving or riding in any vehicle, in any seating position.

Step 3: Driver Agreements

Establish a contract with all employees who drive for work purposes, whether they drive assigned company vehicles or drive their personal vehicles. By signing an agreement, the driver acknowledges awareness and understanding of the organization’s traffic safety policies, procedures, and expectations regarding driver performance, vehicle maintenance and reporting of moving violations.

Step 4: Motor Vehicle Record checks

It is recommended that all employees who drive a company vehicle have their driving records checked periodically. Checking Division of Motor Vehicle records periodically ensures that driving records are updated accurately. Driving records can be obtained from the N.C. Department of Transportation, Division of Motor Vehicles, by one of the following methods:

- Use the Internet Driving Record Request service online at:
<https://edmv-dr.dot.state.nc.us/DrivingRecords/DrivingRecords>
- By mail. Follow the instructions found at:
http://www.ncdot.org/dmv/other_services/recordsstatistics/copyDrivingRec.html

Step 5: Crash Reporting and Investigation

Establish and enforce a crash reporting and investigation process. All crashes, regardless of severity, should be reported to the employee’s supervisor as soon as feasible after the incident. Company traffic safety policies and procedures should clearly guide drivers through their responsibilities in a crash situation. All crashes should be reviewed to determine their cause and whether or not the incidents were preventable. Understanding the root causes of crashes and why they are happening, regardless of fault, forms the basis for eliminating them in the future.

Sample Reporting Procedure

Company Accident Reporting Procedures:

1. Call 911.
2. Provide first aid to injured parties if qualified.
3. Wait for law enforcement. Do not move vehicle until authorized by law enforcement or the situation dictates otherwise.
4. Report accident to supervisor as soon as possible.
5. Provide accident documentation to supervisor upon return to office and file accident report.

Step 6: Vehicle Selection, Maintenance and Inspection

Selecting, properly maintaining and routinely inspecting company vehicles are important parts of preventing crashes and related losses.

The organization should review and consider the safety features of all vehicles to be considered for use. Those vehicles that demonstrate “best-in-class” status for crash-worthiness and overall safety should be chosen and made available to drivers.

For the latest information on crash test ratings and other important vehicle safety information, visit www.safercar.gov. To report a concern about a defect or problem with your vehicle, contact the NHTSA Auto Safety Hotline at 1-888-DASH-2-DOT.

Vehicles should be on a routine preventive maintenance schedule for servicing and checking of safety-related equipment. Regular maintenance should be done at specific mileage intervals consistent with the manufacturer’s recommendations. A mechanic should do a thorough inspection of each vehicle at least annually with documented results placed in the vehicle’s file.

Personal vehicles used for company business are not necessarily subject to the same criteria and are generally the responsibility of the owner. However, personal vehicles used on company business should be maintained in a manner that provides the employee with maximum safety and reflects positively on the company.

Sample Vehicle Safety Inspection Form

VEHICLE SAFETY INSPECTION

Driver: _____
 Inspected by: _____
 Date: _____

Vehicle Year, Make, Model: _____
 Vehicle Number: _____
 Mileage: _____

EXTERIOR	YES	NO
Lights (tail, signal, brake): broken lens, burned out bulbs (L) (R)	<input type="checkbox"/>	<input type="checkbox"/>
Headlights: broken lens, burned out bulbs, odd angle (L) (R)	<input type="checkbox"/>	<input type="checkbox"/>
Side mirrors: broken, missing (L) (R)	<input type="checkbox"/>	<input type="checkbox"/>
Tires: air pressure, worn, leak (L) (R) (F) (B)	<input type="checkbox"/>	<input type="checkbox"/>
Body: dents, scratches, rust (L) (R) (F) (B)	<input type="checkbox"/>	<input type="checkbox"/>
Windshield and windows: cracks, dirty (L) (R) (F) (B)	<input type="checkbox"/>	<input type="checkbox"/>
Windshield wipers: worn blades, noises (L) (R)	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>
Leaks: fluid underneath vehicle	<input type="checkbox"/>	<input type="checkbox"/>
INTERIOR		
Dashboard instruments: not working	<input type="checkbox"/>	<input type="checkbox"/>
Air conditioner: not working	<input type="checkbox"/>	<input type="checkbox"/>
Heater: not working	<input type="checkbox"/>	<input type="checkbox"/>
Defrost: not working	<input type="checkbox"/>	<input type="checkbox"/>
Horn: not working	<input type="checkbox"/>	<input type="checkbox"/>
Rearview mirror: missing, adjustment	<input type="checkbox"/>	<input type="checkbox"/>
Emergency equipment: spare tire, jack, fire extinguisher, first aid kit	<input type="checkbox"/>	<input type="checkbox"/>
Seat belts: proper condition	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>
MECHANICAL		
Steering: wheel alignment, excessive play	<input type="checkbox"/>	<input type="checkbox"/>
Engine: unusual noise, stalling hesitation, rough starting or running	<input type="checkbox"/>	<input type="checkbox"/>
Brakes: noises, improper functioning	<input type="checkbox"/>	<input type="checkbox"/>
Steering: wheel alignment, excessive play	<input type="checkbox"/>	<input type="checkbox"/>
Transmission: noises, slow movement	<input type="checkbox"/>	<input type="checkbox"/>

Step 7: Disciplinary Action System

Develop a strategy to determine the course of action after the occurrence of a moving violation or preventable crash. There are a variety of corrective action programs available; the majority of these are based on a system that assigns points for moving violations. The system should provide for progressive discipline if a driver begins to develop a pattern of repeated traffic violations or preventable crashes. The system should describe what specific actions will be taken if a driver accumulates a certain number of violations or preventable crashes in any defined period. A sample point system for moving violations is below.

Sample Point System

MOVING VIOLATION POINT SYSTEM

Serious Violations (7 points)

- Driving under the influence of alcohol or drugs
- Fleeing the scene of an accident or law enforcement
- Driving under license suspension or revocation
- Passing a stopped school bus
- Speeding in a construction zone
- 15 or more MPH above the speed limit

Minor Violations (4 points)

- From 10 MPH to 15 MPH above the speed limit
- Passing on the yellow line or through an intersection
- Running a red light
- Failure to obey traffic signals
- Tailgating

Minor Violations (2 points)

- Less than 10 MPH above the speed limit
- Failure to yield right of way
- Failure to provide proper signals

Step 8: Reward/Incentive Program

Develop and implement a driver reward/incentive program to make safe driving an integral part of your business culture. Safe driving behaviors contribute directly to the bottom line and should be recognized as such. Positive results are realized when driving performance is incorporated into the overall evaluation of job performance. Reward and incentive programs typically involve recognition, monetary rewards, special privileges or the use of incentives to motivate the achievement of a goal or to increase participation in a program or event.

Step 9: Driver Training/Communication

Provide continuous driver safety training and communication. Even experienced drivers benefit from periodic training and reminders of safe driving practices and skills. It is easy to become complacent and not think about the consequences of our driving habits. Training should include both classroom and behind-the-wheel training. Classroom training should include areas such as company policies, safe driving techniques and vehicle inspection. All training should be documented and placed in the employee's file upon completion.

Step 10: Regulatory Compliance

Ensure adherence to highway safety regulations. It is important to clearly establish which, if any, local, state and federal regulations govern your vehicles and drivers. These regulations may involve, but may not necessarily be limited to:

- Federal Motor Carrier Safety Administration (FMCSA)
- U.S. Department of Transportation (USDOT)
- National Highway Transportation Safety Administration (NHTSA)
- Federal Highway Administration (FHWA)
- Employment Standards Administration (ESA)

General Fleet Safety

- Provide fleet vehicles that offer the highest possible levels of occupant protection in the event of a crash. In addition to reducing injury severity in the event of a crash, this practice also conveys to workers that vehicle safety is a company priority. Information about the crashworthiness of a given vehicle's make and model is available on the NHTSA Web site at <http://www.nhtsa.dot.gov>.
- Implement a comprehensive vehicle maintenance program that includes pre-trip vehicle inspections for key potential problem areas, immediate withdrawal from service for any vehicle with mechanical problems, and periodic withdrawal from service for comprehensive inspection and scheduled maintenance. Federal motor carrier regulations under 49 CFR 396 contain a list of commercial motor vehicle systems and parts that must be inspected. In addition, the Commercial Vehicle Safety Alliance (an organization of officials responsible for enforcement of motor carrier safety laws) has developed out-of-service criteria that may be applied to all types of fleet vehicles. (Note: These criteria are limited to severe deficiencies and should not be used as sole maintenance criteria.)
- Develop delivery schedules that take into account the need for periodically taking trucks out of service for scheduled maintenance.
- Where practical, consider adopting a "one driver, one vehicle" strategy. Assignment to a single vehicle instills a sense of responsibility and ownership. Also, a worker who operates the same vehicle each day may more easily identify potential mechanical problems with that vehicle.
- Establish schedules that allow drivers to obey speed limits and follow hours-of-service regulations, where they apply. This recommendation pertains both to workers who drive long distances and to those who make local deliveries.

Safe Driving Practices for Employees

Stay Focused

Distracted driving is a factor in 25 percent to 30 percent of all traffic crashes. With hectic schedules and roadway delays, many employees feel pressured to multitask just to keep up with their personal and work-related responsibilities. Since drivers make more than 200 decisions during every mile traveled, it is critical for employers to stress that when driving for work, safe driving is their primary responsibility.

- Give driving you full attention. Avoid distractions such as adjusting the radio or other controls, eating or drinking, and talking on a cell phone.
- Continually observe your roadway surroundings to be alert to situations requiring quick action.
- Take a rest break every two hours. Get out of the vehicle to stretch, take a walk, and get refreshed.

Avoid Aggressive Driving

It is easy to become stressed when driving, particularly during morning or evening commutes. Aggressive driving includes excessive speed, tailgating, failure to signal a lane change, running a red light and passing on the right.

- Remain calm on the roadway.
- Be patient and courteous to other drivers.
- Do not take other drivers' actions personally.
- Reduce stress by planning your route ahead of time, allowing plenty of travel time, and avoiding crowded roadways and busy driving times.

Secure Materials for Transport

Secure tools or equipment while being transported to prevent unsafe movement of materials. During a crash or when making sudden maneuvers, loose objects can slide around or become airborne, injuring the driver and any passengers. Objects that could become a hazard should be secured or stored outside the passenger compartment.

Use Seat Belts

Seat belts are the single most effective means of reducing deaths and serious injuries in traffic crashes. As the most effective safety device in vehicles, they save nearly 12,000 lives and prevent 325,000 serious injuries in America each year. During a crash, anyone not wearing a seat belt will slam into the steering wheel, windshield or other parts of the interior, or be ejected from the vehicle.

Employers should develop a seat belt policy for all employees. A sample is provided on page 6 of this industry guide.

Never Drive After Consuming Alcohol or Drugs

Alcohol use is involved in 40 percent of all fatal motor vehicle crashes, representing an average of one alcohol-related fatality every 30 minutes. It is estimated that three in every 10 Americans will be involved in an impaired driving-related crash some time in their life. Businesses pay a high price for alcohol and drug abuse; alcohol is a contributing factor in 39 percent of all work-related traffic crashes. Alcohol, certain prescription drugs, over-the-counter medications and illegal drugs can all affect a person's ability to drive safely due to decreased alertness, concentration, coordination and reaction time.

Employers should develop an alcohol and drug policy for all employees. A sample is provided on page 6 of this industry guide.

Fatigued Driving

Fatigued or drowsy driving may be involved in more than 100,000 crashes each year, resulting in 40,000 injuries and 1,550 deaths. Sadly, these numbers represent only the tip of the iceberg since these crashes are seriously under-reported. These days, it is more important than ever for employees to be well-rested, alert and sober on the road so that they are in a position to defend themselves from drivers who do not make the same choice. Train employees to make smart decisions when they are behind the wheel, on and off the job.

Young Drivers

The 16- to 20-year-old population represents a significant highway safety problem. Traffic crashes are the leading cause of fatalities for teens. Historically, this group is the age group that has the lowest seat belt use rate and is the most likely to engage in risky driving behaviors that include speeding and driving while alcohol or drug impaired and when drowsy. It is important for employers with young workers to actively promote safe driving practices.

Under state and federal law, 16-year-old workers are prohibited from driving as part of their job, and 17-year-olds may drive for work only under strictly limited circumstances. Some state laws may be more restrictive than federal laws. For more information on child labor laws, visit www.youthrules.dol.gov or www.cdc.gov/niosh/topics/youth/.

Defensive Driving

While a driver can control his or her own actions behind the wheel, it is nearly impossible to control the actions of other drivers. However, drivers should be trained in defensive driving techniques to avoid a crash in spite of the driving errors of others.

Some skills used for driving defensively include:

- Scanning
- Communicating
- Hand signals
- Flashers
- Keeping a margin of safety
- Adjusting

Scanning

What you see is important for defensive driving:

- Good drivers try to see 10 seconds to 15 seconds ahead on the roadway (about one city block). By looking ahead, you might avoid last minute moves such as sudden stops or quick lane changes.
- About every 10 seconds check the mirrors to see if any vehicle is following too closely.
- When changing lanes, backing, slowing down or driving down a long hill, it is important to check for traffic from behind the car and in your blind spots.
- While checking the mirrors, do not take your eyes off the road for more than an instant. The vehicle in front of you could stop suddenly.
- Always leave yourself an “out.”

Although mirrors are useful, you should remember they do not show the full picture. Mirrors leave blind spots in your field of vision. Blind spots are the areas near the left and right rear corners of the vehicle that you cannot see using the mirrors from the driver’s perspective. Therefore, before you make any lane changes or turns, quickly turn your head and look over your shoulder to see what is in the blind spot. Additional blind spots can be created by glaring lights, dirty windshields, vehicles parked too closely to an intersection, bushes and buildings. In these cases, slowly ease your vehicle forward until you can see clearly. Avoid driving in other drivers’ blind spots where it is more difficult for them to see you.

Communicating

Communicating means letting others know what you plan to do early enough to avoid a crash. Anytime you plan to slow down, stop, turn, change lanes or pull away from the curb, you should signal your intention. Be in the habit of signaling your movements even when you do not see others on the road. Before you signal, you must first see that your movement can be made safely.

Hand Signals

Hand signals are given from the driver’s window, using the left arm and hand:

- To signal a left turn, hold the arm and hand straight out and point the first finger.
- To signal a right turn, hold the arm straight out and the forearm and hand straight up, palm facing forward.
- To signal stopping and slowing down, point the arm and hand down, palm facing back.

Flashers

Flashing light signals for turns are legal substitutes for hand signals, but there are times when they are hard to see. In late afternoon and early morning, the lenses may reflect sunlight, making it difficult to tell whether the signals are flashing. At night a flashing light signal is much easier to see than a hand signal. Use the type of signal you believe will communicate best. A good rule is to use both hand signals and flashing light signals in the daytime, especially in the late afternoon or early morning when the sun is bright and low in the sky. The flashing light signal is sufficient at night.

Signal at least the last 100 feet before turning or stopping. If the speed limit is 45 mph or more, signal at least the last 200 feet before turning. The faster you are driving, the farther ahead you should signal.

Keeping a Margin of Safety

Allow a margin of safety around you by staying clear of other vehicles. Make sure there is enough room ahead and behind to pass or stop safely. Use the "two second rule" to determine if you are far enough behind a vehicle to react if it stops suddenly.

The Two-Second Rule: The two-second rule says that you should allow two seconds between the time the vehicle ahead of you passes a given point and the time your vehicle reaches the same point.

Drive at a steady speed, and signal well in advance whenever you are slowing down or stopping to warn other drivers from following too closely. If another vehicle follows you too closely, move to another lane and signal for the driver to pass you. Stay in the middle of the lane and leave space on both sides of your car. Allow ample room between your car, parked cars and oncoming traffic.

Adjusting

In situations when you have to deal with two or more unavoidable dangers at the same time, adjust by giving the most room to the greatest or most likely danger. Suppose there are approaching cars to your left and a child on a bicycle to your right. The child is most likely to make a sudden move, so give the child more room. This may mean moving closer to the oncoming cars. If the dangers are equally hazardous, such as oncoming cars and parked cars, you should stop and allow the oncoming cars to pass safely before proceeding.

Struck-By Hazards

Motor vehicles accidents on the highway are the leading cause of transportation-related deaths on the job. Another area for concern is employees being struck by off-highway vehicles or other motorized equipment, particularly on construction sites or in work zones.

By taking a few minutes to follow proper procedures when operating a vehicle, a worker's life may be saved.

Spotter Safety

A spotter should always be used any time a vehicle or moving equipment with a restricted view is operating on site. The spotter's main responsibilities are to look out for himself or herself and look out for all others on the site. Some tips for the spotter include:

- Never leave the driver's sight without notifying the operator to stop the vehicle.
- Always signal in an area the driver can see.
- Be consistent with hand signals to ensure understanding.

Safe Operation Techniques

- Do not drive a vehicle/equipment in reverse gear with an obstructed rear view, unless it has an audible reverse alarm distinguishable from the surrounding noise level or another worker signals that it is safe.
- Workers must be highly visible in all levels of light. Warning clothing, such as red or orange vests, are required; and, if worn for night work, must be of reflective material.
- Never allow workers who are untrained to operate equipment.
- Drive vehicles or equipment only on roadways or grades that are safely constructed and maintained. Failure to do so can result in overturned equipment.
- Make sure that you and all other personnel are in the clear before using dumping or lifting devices.
- Lower or block bulldozer and scraper blades, end-loader buckets, dump bodies, etc., when not in use, and leave all controls in neutral position.
- Set parking brakes when vehicles and equipment are parked, and chock the wheels if they are on an incline.

Worker Training

- Train employees on the specific type of equipment they will operate, particularly the manufacturer's specifications and recommendations.
- Familiarize all employees with the work site and all vehicle operations. Make sure they are aware of intersections and blind areas in the work zone.
- If employees are assigned traffic control responsibilities, make sure they are trained in specific techniques, device usage and placement.

Work Zone Safety

- Use traffic signs, barricades or flaggers when construction takes place near public roadways.
- Ensure the traffic control zone is divided and maintained in five distinct areas: advance warning area, transition area, buffer area, worker area and termination area.
- Display properly spaced advance warning signs to notify drivers of lane tapering, shoulder work, paving or other activity.

Vehicle Maintenance

- Ensure seat belts are in working order and meet the regulations found in OSHA standard 29 CFR 1926.601(b)(9).
- Check vehicles before each shift to assure that all parts and accessories are in safe operating condition. Examples include brake system, tires, emergency brakes, steering and lights.
- Ensure audible alarms and horns are in working order. All bidirectional machines, such as front-end loaders, back hoes and bulldozers, must be equipped with a horn.

Resources

Occupational Safety and Health Administration Web Site

Safety and Health Topics: Motor Vehicle Safety
www.osha.gov/SLTC/motorvehiclesafety/index.html

Network of Employer for Traffic Safety (NETS)

www.trafficsafety.org
1-800-221-0045

National Highway Traffic Safety Administration

www.nhtsa.dot.gov
1-888-327-4236

National Institute for Occupational Safety and Health

Motor Vehicle Safety
<http://www.cdc.gov/niosh/topics/motorvehicle/>
1-800-35-NIOSH or 1-800-356-4674

N.C. Department of Transportation, Division of Motor Vehicles

<http://www.ncdot.org/dmv/>

The following industry guides are available from the N.C. Department of Labor's Occupational Safety and Health Division:

- #1. *A Guide to Safety in Confined Spaces*
- #2. *A Guide to Procedures of the N.C. Safety and Health Review Commission* (downloadable PDF **ONLY**)
- #3. *A Guide to Machine Safeguarding*
- #4. *A Guide to OSHA in North Carolina*
- #5. *A Guide for Persons Employed in Cotton Dust Environments* (downloadable PDF **ONLY**)
- #6. *A Guide to Lead Exposure in the Construction Industry* (downloadable PDF **ONLY**)
- #7. *A Guide to Bloodborne Pathogens in the Workplace*
- #8. *A Guide to Voluntary Training and Training Requirements in OSHA Standards*
- #9. *A Guide to Ergonomics*
- #10. *A Guide to Farm Safety and Health* (downloadable PDF **ONLY**)
- #11. *A Guide to Radio Frequency Hazards With Electric Detonators* (downloadable PDF **ONLY**)
- #12. *A Guide to Forklift Operator Training*
- #13. *A Guide to the Safe Storage of Explosive Materials* (downloadable PDF **ONLY**)
- #14. *A Guide to the OSHA Excavations Standard*
- #15. *A Guide to Developing and Maintaining an Effective Hearing Conservation Program*
- #16. *A Guide to Construction Jobsite Safety and Health/Guía de Seguridad y Salud para el Trabajo de Construcción*
- #17. *A Guide to Asbestos for Industry*
- #18. *A Guide to Electrical Safety*
- #19. *A Guide to Occupational Exposure to Wood, Wood Dust and Combustible Dust Hazards* (downloadable PDF **ONLY**)
- #20. *A Guide to Cranes and Derricks*
- #23. *A Guide to Working With Electricity*
- #25. *A Guide to Personal Protective Equipment*
- #26. *A Guide to Manual Materials Handling and Back Safety*
- #27. *A Guide to the Control of Hazardous Energy (Lockout/Tagout)*
- #28. *A Guide to Eye Wash and Safety Shower Facilities*
- #29. *A Guide to Safety and Health in Feed and Grain Mills* (downloadable PDF **ONLY**)
- #30. *A Guide to Working With Corrosive Substances* (downloadable PDF **ONLY**)
- #31. *A Guide to Formaldehyde* (downloadable PDF **ONLY**)
- #32. *A Guide to Fall Prevention in Industry*
- #32s. *Guía de Prevención de las Caídas en la Industria (Spanish version of #32)*
- #33. *A Guide to Office Safety and Health* (downloadable PDF **ONLY**)
- #34. *A Guide to Safety and Health in the Poultry Industry* (downloadable PDF **ONLY**)
- #35. *A Guide to Preventing Heat Stress*
- #38. *A Guide to Safe Scaffolding*
- #40. *A Guide to Emergency Action Planning*
- #41. *A Guide to OSHA for Small Businesses in North Carolina*
- #41s. *Guía OSHA para Pequeños Negocios en Carolina del Norte (Spanish version of #41)*
- #42. *A Guide to Transportation Safety*
- #43. *A Guide to Combustible Dusts*
- #44. *A Guide to Respiratory Protection*
- #45. *A Guide to Hexavalent Chromium Cr(VI) for Industry*

Occupational Safety and Health (OSH)

Sources of Information

You may call 1-800-NC-LABOR (1-800-625-2267) to reach any division of the N.C. Department of Labor; or visit the NCDOL home page on the World Wide Web: <http://www.nclabor.com>.

N.C. Occupational Safety and Health Division

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Local Telephone: (919) 807-2900 Fax: (919) 807-2856

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 3rd Floor)

For information concerning education, training and interpretations of occupational safety and health standards contact:

Education, Training and Technical Assistance Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 807-2875 Fax: (919) 807-2876

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 4th Floor)

For information concerning occupational safety and health consultative services and safety awards programs contact:

Consultative Services Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 807-2899 Fax: (919) 807-2902

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 3rd Floor)

For information concerning migrant housing inspections and other related activities contact:

Agricultural Safety and Health Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 807-2923 Fax: (919) 807-2924

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 2nd Floor)

For information concerning occupational safety and health compliance contact:

Safety and Health Compliance District Offices

Raleigh District Office (3801 Lake Boone Trail, Suite 300, Raleigh, NC 27607)

Telephone: (919) 779-8570 Fax: (919) 420-7966

Asheville District Office (204 Charlotte Highway, Suite B, Asheville, NC 28803-8681)

Telephone: (828) 299-8232 Fax: (828) 299-8266

Charlotte District Office (901 Blairhill Road, Suite 200, Charlotte, NC 28217-1578)

Telephone: (704) 665-4341 Fax: (704) 665-4342

Winston-Salem District Office (4964 University Parkway, Suite 202, Winston-Salem, NC 27106-2800)

Telephone: (336) 776-4420 Fax: (336) 776-4422

Wilmington District Office (1200 N. 23rd St., Suite 205, Wilmington, NC 28405-1824)

Telephone: (910) 251-2678 Fax: (910) 251-2654

To make an OSHA Complaint, **OSH Complaint Desk:** (919) 807-2796

For statistical information concerning program activities contact:

Planning, Statistics and Information Management Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 807-2950 Fax: (919) 807-2951

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 2nd Floor)

For information about books, periodicals, vertical files, videos, films, audio/slide sets and computer databases contact:

N.C. Department of Labor Library

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 807-2848 Fax: (919) 807-2849

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 5th Floor)

N.C. Department of Labor (Other than OSH)

1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: (919) 733-7166 Fax: (919) 733-6197